

AMENDMENT(S) TO THE CLAIMS

Claims 1-19 (Canceled)

20. (New) A method for loading a fibrous stock suspension including chemical pulp fibers with calcium carbonate, comprising the steps of:

5 adding one of calcium hydroxide, and calcium oxide into the fibrous stock suspension,

said calcium hydroxide being in one of a liquid and dry form;

feeding a flue gas containing carbon dioxide into the fibrous stock suspension;

precipitating of the calcium carbonate through said carbon dioxide contained in said flue gas; and

10 removing superfluous said flue gas after said precipitating step.

21. (New) The method of claim 20, wherein said flue gas has a carbon dioxide content of approximately between 2 % and 30 % when added into the fibrous stock suspension.

22. (New) The method of claim 20, further including the step of applying a refining force in a refining step, said refining force in a range of approximately between 0.1 kWh per ton of dry fiber stock and 300 kWh per ton of dry fiber stock, whereby the loading method and said refining step are accomplished in an apparatus.

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23. (New) The method of claim 20, further including the step of using an aqueous fibrous stock material as a primary raw material.

24. (New) The method of claim 23, wherein said aqueous fibrous has a consistency of approximately between 0.1 % to 20 %.

25. (New) The method of claim 24, wherein said aqueous fibrous has a consistency of approximately between preferably between 2 % and 6 %.

26. (New) The method of claim 23, wherein said calcium hydroxide is added through one of a static mixer and an intermediate tank.

27. (New) The method of claim 20, further including the step of utilizing at least one of a static mixer, a refiner, a disperger, and a fluffer FLPCC reactor as a reactor.

28. (New) The method of claim 27, wherein a fibrous stock content is one of approximately between 0.01 % and 15 % in the instance of said static mixer; is approximately between 2 % and 40 % in the instance of said refiner, is approximately between 2 % and 40 % in the instance of said disperger, and is approximately between 15 % and 60 % in the instance of  
5 said fluffer FLPCC reactor.

29. (New) The method of claim 20, further including the step of adding a dilution water one of prior to, during and after the addition of at least one of said carbon dioxide, said calcium hydroxide and said calcium oxide.

30. (New) The method of claim 20, wherein an expenditure of energy of approximately

between 0.3 kWh/t and 8 kWh/t is used for said precipitating step.

31. (New) The method of claim 30, wherein said expenditure of energy is approximately between 0.5 kWh/t and 4 kWh/t.

32. (New) The method of claim 20, further including the step of maintaining a process temperature approximately between -15° C and 120° C.

33. (New) The method of claim 32, wherein said process temperature is maintained approximately between 20° C and 90° C.

34. (New) The method of claim 20, further including the step of producing at least one of rhombohedral crystals of calcium carbonate, scalenohedron crystals of calcium carbonate and spherical crystals of calcium carbonate.

35. (New) The method of claim 34, wherein said crystals measure approximately between 0.05 μm and 5 μm.

36. (New) The method of claim 35, wherein said crystals measure approximately between 0.3 μm and 2.5 μm.

37. (New) The method of claim 20, further including the step of utilizing at least one of static mixing elements, moving mixing elements and rotating mixing elements.

38. (New) The method of claim 20, further including the step of carrying out said method in a pressure range of approximately between 0 bar and 15 bar.

39. (New) The method of claim 38, wherein said pressure range is approximately between between 0 bar and 6 bar.

40. (New) The method of claim 20, further including the step of carrying out said method at a ph value of approximately between 6 and 10.

41. (New) The method of claim 40, wherein said ph value is approximately between 6.5 and 8.5.

42. (New) The method of claim 20, wherein said precipitating step includes a reaction time approximately between 0.05 seconds and 1 minute.

43. (New) The method of claim 42, wherein said reaction time is approximately between 0.05 seconds and 10 seconds.

44. (New) An apparatus for loading a fibrous stock suspension including chemical pulp fibers with calcium carbonate, said apparatus comprising:

an arrangement of machines for loading the fibrous stock suspension with calcium carbonate being supplied with a flue gas containing carbon dioxide; and

5        a deaeration unit following said machine, said deaeration unit for the removal of  
superfluous said flue gas.

45. (New) The apparatus of claim 44, wherein said flue gas from an incineration plant is supplied to one of a gas motor and a gas turbine.

46. (New) The apparatus of claim 44, wherein said deaeration unit comprises at least one of a chest with an agitator, a pressure screen, a deaeration pump, a cyclone, a cleaner and a deculator.

47. (New) The apparatus of claim 44, further including an intermediate tank installed after said deaeration unit as viewed in a fiber stock flow direction.